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REMARKS

Reconsideration and further examination is respectfully requested. Claims 1- 22 are pending in this application.

Rejections under 37 C.F.R. §1.75

Claims 1-12 were objected to due to the inclusion of a typographical error in claim 1. Claim 1 has been amended to replace 'establishedand' with —established and--. The objection has thus been overcome and it is requested that it be withdrawn.

Rejections under 35 U.S.C. §102

Claims 1, 2 and 9 were rejected under 35 U.S.C. §102(e) as being anticipated by Hsu (6,363,319). The Examiner states, at pages 2-3 of the office action:

“... For claims 1, 2, and 9, Hsu discloses a system comprising ... a plurality of MPLS devices (see boxes 122 B1 to 122 BN in figure 1B), wherein a plurality of service tiers having different combinations of class of traffic and level of service are established and traffic is separated by at least one MPLS device based upon the plurality of service tiers (see column 1, lines 50-59)...wherein a plurality of label switched path resource classes are reserved for signaling the plurality of service tiers (see column 1 lines 50-59)... and wherein the plurality of MPLS devices comprises a standard MPLS device configured to separate traffic for each service tier...(see column 2 lines 50-57 and column 3 lines 1-9)...”

In order to properly reject a claim under 35 U.S.C. §102, the art put forth by the Examiner must describe or suggest *every* limitation in the claims. Applicants respectfully submit that Hsu fails to do so for the following reasons.

Hsu:

Hsu describes, in the Abstract of the Disclosure, a method and apparatus for selecting a route for a flow from a plurality of network paths connecting a source to a destination. The method comprises: (a) determining cumulative costs for a plurality of candidate paths from the

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network paths using a cost bias which is dynamically calculated based on at least one of a flow attribute and a path attribute; and (b) selecting an optimal path having a minimum of the cumulative costs. The optimal path corresponds to the selected route.

Thus, Hsu is directed to route selection. In fact it is a goal of Hsu 'to provide a simple and efficient method to select routes in a system of network...' (column 1, lines 37-38).

Claims 1, 2 and 9:

In contrast, the present invention, as described in the specification at page 9, provides a mechanism for simultaneously supporting different classes of traffic as well as different levels of service within a single, unified MPLS network under all operating conditions without complex provisioning rules.

Accordingly Applicants' claim 1 recites "...A system for traffic and subscriber service differentiation using multiprotocol label switching (MPLS), the system comprising a plurality of MPLS devices, wherein a plurality of service tiers having different combinations of class of traffic and level of service are established and traffic is separated by at least one MPLS device based upon the plurality of service tiers..."

Thus the present invention establishes service tiers, and traffic is separated based upon the service tier to which it belongs. As recited in the claims, each service tier is associated with a different combination of class of traffic and level of service.

Applicants can find no mention or suggestion of segregating traffic in this manner in Hsu. The particular portion of text of Hsu, heavily relied on by the Examiner, describes Hsu's use of a flow attribute and a path attribute. As stated by Hsu, the 'flow attribute... includes a flow priority and a bandwidth demand...' The path attribute includes 'a link bandwidth and a maximum available link bandwidth...' The various attributes, when calculated, are used to select a route for

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the flow to traverse through the network. Applicants respectfully submit that Hsu describes a system which is patentably distinct from that of the claimed invention. In contrast to the claimed invention, Hsu does *not* describe 'service tiers' and separating traffic based on the 'service tier' to which it belongs. Rather the system of Hsu uses a complicated biased static cost determination, using a combination of factors to select *a routing path for a given flow*. Hsu explicitly says that the described routing determination that is made is independent of any service differentiation aspects at column 6, lines 25-29, when it states "... the routing priority may or may not be associated with any service scheduling priority..." Accordingly, it is clear from such teaching that Hsu neither describes nor suggests "...a plurality of service tiers having different combinations of class of traffic and level of service..." and "traffic is separated" "based on the plurality of service tiers" as recited in claim 1. For at least the reason that Hsu fails to describe or suggest *every* limitation in the claim, it is requested that the rejection under 35 U.S.C. §102 be withdrawn.

Applicants claim 2 depends on claim 1 and recites "...wherein a plurality of label switched path (LSP) resource classes (colors) are reserved for signaling the plurality of service tiers..." The Examiner states that such a limitation is taught by Hsu at column 1, lines 50-59. However, no mention is found in that paragraph, or elsewhere in Hsu, of associating label switched path resource classes with service tiers. The portion of text cited by the Examiner is directed merely at flow attributes and path attributes, but makes no mention of service attributes. As noted above, Hsu 'may or may not' use service priority in its determination of paths. Applicants respectfully disagree that such language teaches the limitations of the claimed invention, and for at least this reason it is requested that the rejection be withdrawn.

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Applicants' claim 9 recites "...wherein the plurality of MPLS devices comprises a standard MPLS device configured to separate traffic for each service tier...." The Examiner directs the Applicants' attention to statements in Hsu which state 'well known electrical structures and circuits are shown in block diagram form in order not to obscure the present invention...' and "The priority attribute differentiates flows by relative likelihood of being blocked by the network ... so that flows of the higher priority class should expect higher service availability..." Applicants fail to see how such language teaches or describes 'a standard MPLS device configured to separate traffic for each service tier...' where the service tier is defined in the parent claim. For at least the reason that Hsu also fails to disclose or suggest this limitation, claim 9 is patentably distinct and it is requested that the rejection be withdrawn.

Rejections under 35 U.S.C. §103

Claims 7, 8, 10, 11 and 13 were rejected under 35 U.S.C. §103(a) as being unpatentable over Hsu in view of Elliott et al. (U.S. 6,614,781).

Elliott:

Elliott describes a system and method for communicating voice and data over a packet-switched network that is adapted to coexist and communicate with a legacy PSTN. (Abstract)

The Examiner states, at page 4 of the Office Action:

"... For claims 7, 8, 10, 11 and 13, Hsu discloses all the subject matter of the claimed invention with the exception of establishing a queue for each service tier and a multiple levels of service for a single class of traffic in a communications network. Elliott et al. from the same or similar fields of endeavor teaches a provision of creating a plurality of queues in order to protect database integrity high, medium and low priority queue (see column 89 lines 36-37). Thus, it would have been obvious to the person of ordinary skill in the art at the time of the invention to use establishing a queue for each

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service tier and a multiple levels of service for a single class of traffic as taught by Elliott et al. in the communications network of Hsu... The establishing a queue for each service tier and a multiple levels of service for a single class of traffic can be implemented/modified into the network of Hsu by using the central server in figure 1A to perform this scheme. The motivation for using establishing a queue for each service tier and a multiple levels of service for a single class of traffic as taught by Elliott et al. into the communications network of Hsu being that it protects data integrity in the system and provides a simple and efficient method to select routes in a system of networks..."

As stated in M.P.E.P. §2143, to establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The Examiner's combination of Hsu and Elliott with regard to Applicants claimed invention fails to meet several of these burdens for the reasons described below.

1. Insufficient motivation for the modification suggested by the Examiner

It is well known that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either explicitly or implicitly in the references themselves or in the knowledge generally available to one of ordinary skill in the art. The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. *In re Mills*, 916 F.2d 680, 16 USPQ2d 1430 (Fed. Cir. 1990).

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The motivation cited by the Examiner is 'that it protects data integrity in the system and provides a simple and efficient method to select routes in a system of networks...' Applicants disagree that such a motivation exists for at least two reasons. First, it is not clear to Applicant how the inclusion of queues in Hsu would 'serve to protect data integrity' as alleged by the Examiner. In addition, Applicants also do not see how the inclusion of queues assists Hsu in route determination, since Hsu uses a complex combination of flow attributes and path attributes to identify desirable routes. For at least the reason that the motivation provided for making the modification is unclear, Applicant submits that the rejection is improper and should be withdrawn.

2. Modification suggested by the Examiner would serve to frustrate Hsu

The Examiner suggests that "The establishing a queue for each service tier and a multiple levels of services for a single class of traffic can be implemented/ modified into the network of Hsu by using the central server in Figure 1A to perform this scheduling scheme..." However, the particular modification suggested by the Examiner would require ALL traffic to be routed through a central server to receive priority queue handling, undesirably resulting in a single device handling the traffic load of the **entire network**, and being a single point of failure. Applicants respectfully submit that the resulting modification, suggested by the Examiner, would neither serve the stated purposes of protecting data integrity (due to the single point of failure introduced), and also would not serve to increase the efficiency of the network, as stated, since all routing operations, and hence all flows, would have to be forwarded through the central server, thereby creating a bottleneck situation. For the additional reason that there is no reasonable expectation of success for the stated motivational goals, the rejection is improper and should be withdrawn.

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Combination neither describes nor suggests the claimed invention

However, even if a motivation could be found, and a successful combination of the references could be made, the combination still would neither describe nor suggest the claimed invention. It is noted that claims 7, 8, 10 and 11 are dependent claims which serve to further narrow independent claim 1. Independent claim 13 recites "...A device for traffic and subscriber service differentiation using multiprotocol label switching (MPLS), the device comprising: a plurality of queues, each queue associated with a different one of a plurality of service tiers having different combinations of class of traffic and level of service; a traffic/service differentiator operably coupled to separate traffic for the different service tiers into a corresponding queue of the plurality of queues; and a scheduler operably coupled to provide transmission opportunities for the plurality of queues..." Thus all the claims that are rejected under the combination of Hsu and Elliott include the limitation of 'a plurality of service tiers' and a mechanism for separating the 'traffic for the different service tiers...' As described in depth above with regard to Hsu, Hsu fails to disclose the apportioning of traffic into service tiers. The combination of Elliott with Hsu further fails to overcome the inadequacy of Hsu. Accordingly, for at least the reason that the combination of Elliott and Hsu fails to teach or describe several limitations of the claims 7, 8, 10, 11 and 13 are patentably distinct over the references, and the rejection should be withdrawn.

Allowable Claims

Claims 3-6, 12 and 14-18 were objected to as being dependent upon a rejected base claim, but the Examiner indicated that the claims would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Applicants have

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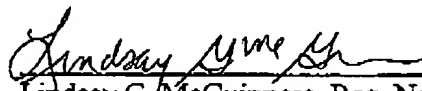
amended claim 3 and claim 12 to include the limitations of their parent independent claim 1, and thus they are now in condition for allowance, as are claims 4-6 which serve to further narrow claim 3. Applicants have also amended claim 14 to include the limitation of its parent claim 13, and submit that it is also now in condition for allowance. The Examiner is hereby authorized to charge deposit account 502569 for any charges that may be incurred through the addition of new independent claims 3, 12 and 14. Claims 19-22 were allowed.

The Examiner is thanked for the careful review of this application. Applicants have made a diligent effort to place the claims in condition for allowance. However, should there remain unresolved issues that require adverse action, it is respectfully requested that the Examiner telephone the undersigned, Applicants' Attorney at 978-264-6664 so that such issues may be resolved as expeditiously as possible.

For these reasons, and in view of the above amendments, this application is now considered to be in condition for allowance and such action is earnestly solicited.

Respectfully Submitted,

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Date


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